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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,590	03/19/2004	Dirk Heintzen	588.1021	9524
23280	7590	11/14/2005		
DAVIDSON, DAVIDSON & KAPPEL, LLC 485 SEVENTH AVENUE, 14TH FLOOR NEW YORK, NY 10018			EXAMINER LE, JOHN H	
			ART UNIT 2863	PAPER NUMBER

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H-8

**Office Action Summary**

Application No.

10/804,590

Applicant(s)

HEINTZEN ET AL.

Examiner

John H. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-22 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 23-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/19/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 23-36 are objected to because of the following informalities:

Claim 23 is duplicate number of claim, therefore claims 23-26 have been misnumbered.

Claim 23, line 1, "23" should change to --24--.

Claim 24, line 1, "24" should change to --25--, "claim 23" should change to --claim 24--.

Claim 25, line 1, "25" should change to --26--.

Claim 26, line 1, "26" should change to --27--.

Claim 27, line 1, "27" should change to --28--, "claim 26" should change to --claim 27--.

Claim 28, line 1, "28" should change to --29--.

Claim 29, line 1, "29" should change to --30--, "claim 28" should change to --claim 29--.

Claim 30, line 1, "30" should change to --31--, "claim 23" should change to --claim 24--.

Claim 31, line 1, "31" should change to --32--.

Claim 32, line 1, "32" should change to --33--.

Claim 33, line 1, "33" should change to --34--, "claim 25" should change to --claim 26--.

Claim 34, line 1, "34" should change to --35--.

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Claim 35, line 1, "35" should change to --36--, "claim 34" should change to --claim 35--.

Claim 36, line 1, "36" should change to --37--, "claim 34" should change to --claim 35--.

Appropriate correction is required.

***Allowable Subject Matter***

2. Claims 1-22 are allowed.
3. Claims 23-36 have been objected to as containing informalities, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 34, none of the prior art of record teaches or suggests the combination of a method for increasing measuring accuracy for a limited path by using a measuring system having a sensor and a scale having path events, wherein the method comprising the steps of: during at least one learning phase, moving the sensor relative to the scale so as to form a map of actual geographical intervals of the path events; and subsequent to the at least one learning phase, moving the sensor and the scale relative to each other and detecting the path events during a measuring phase, the path events being reproduced by the sensor as electric signals, and determining a measured path as a function of the detecting of the path events and the map. It is these limitations as they are claimed in the combination with other limitations of claim, which

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have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

U.S. Patent No. 6,289,862 discloses a locking mechanism for a device to modify the control timing of cylinder valves of an internal combustion engine, in particular for a vane-cell positioning device. The device consists of a drive wheel driven by a crankshaft of the internal combustion engine, said drive wheel having a cavity, and an impeller permanently connected to the camshaft that has at least one vane. '862 fails to specify the steps of during at least one learning phase, moving the sensor relative to the scale so as to form a map of actual geographical intervals of the path events; and subsequent to the at least one learning phase, moving the sensor and the scale relative to each other and detecting the path events during a measuring phase, the path events being reproduced by the sensor as electric signals, and determining a measured path as a function of the detecting of the path events and the map, as now recited in claims 1 and 34 of the present invention.

U.S. Patent No. 4,301,678 discloses a power contribution test for the determination of overall engine performance by analyzing the sub-cyclic fluctuations in net engine torque at prescribed crankshaft angle intervals associated with each cylinder, thereby providing an accurate measure of the engine relative power balance at steady state engine speeds. '678 fails to specify the steps of during at least one learning phase, moving the sensor relative to the scale so as to form a map of actual geographical intervals of the path events; and subsequent to the at least one learning phase, moving the sensor and the scale relative to each other and detecting the path

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events during a measuring phase, the path events being reproduced by the sensor as electric signals, and determining a measured path as a function of the detecting of the path events and the map, as now recited in claims 1 and 34 of the present invention.

U.S. Patent No. 6,564,623 discloses method for exactly determining the top dead centre (TDC) of an internal combustion engine from the pressure curve inside the cylinder. Calculation of the cylinder output may be simplified by combining the pressure curve inside the cylinder with a linear scale in degrees of crank or crankshaft angle, referenced to the TDC time determined from the pressure in the cylinder. If such a simplification is too inaccurate, the linear scale may be adapted to the shape of the actual curve over the time interval with the help of another knowledge-based system. '623 fails to specify the steps of during at least one learning phase, moving the sensor relative to the scale so as to form a map of actual geographical intervals of the path events; and subsequent to the at least one learning phase, moving the sensor and the scale relative to each other and detecting the path events during a measuring phase, the path events being reproduced by the sensor as electric signals, and determining a measured path as a function of the detecting of the path events and the map, as now recited in claims 1 and 34 of the present invention.

#### ***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H. Le whose telephone number is 571 272 2275. The examiner can normally be reached on 9:00 - 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571 272 2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

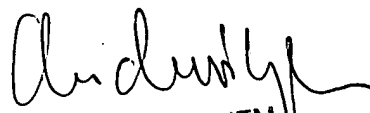
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John H. Le

Patent Examiner-Group 2863

November 8, 2005



MICHAEL NGHIEM  
PRIMARY EXAMINER